

second control signal for controlling said emulation memory, said second control signal being different from said first control signal.--

--25. (New) The microcomputer according to claim 24,
wherein said second control signal includes a second memory read signal which becomes active at a timing earlier than that of a first memory read signal included in said first control signal.--

--26. (New) The microcomputer according to claim 20, further comprising:
a mode selection terminal that selects a first mode and a second mode, said emulation memory being first accessed by said processor after reset in said first mode, and said internal memory being first accessed by said processor after reset in said second mode.--

--27. (New) The microcomputer according to claim 26,
wherein said mode selection terminal is capable of selecting a third mode in which said external memory is first accessed by said processor after reset.--

--28. (New) The microcomputer according to claim 26,
wherein said mode selection terminal is capable of selecting a fourth mode in which information is transmitted from said external memory to said emulation memory after reset and thereafter said emulation memory is first accessed by said processor.--

REMARKS

Claims 1-28 are pending. By this Amendment, the Title is amended, claims 20-28 are added, and the drawings are corrected pursuant to the attached Request for Approval of Drawing Corrections.

Reconsideration based on the following remarks is respectfully requested.

I. The June 22, 2002 Information Disclosure Statement Satisfies All Formal Requirements

The Office Action objects to the June 22 Information Disclosure Statement because the listing of the co-pending U.S. Patent application number as a reference on the Form PTO-1449 is allegedly improper because it is listed under U.S. Patent Documents. This objection is respectfully traversed.

The form PTO-1449 includes three separate sections that can be used to list either U.S. Patent documents, Foreign Patent documents or other non-patent documents. In this case, the co-pending U.S. Patent application number was properly listed under U.S. Patent documents, because the U.S. Patent Application is itself a U.S. Patent document, and is not a foreign patent document or other type of document. Further, the U.S. Patent and Trademark Office typically lists published U.S. Patent Applications under the U.S. Patent document section of PTO-892, which is further evidence that listing U.S. Patent applications under the U.S. Patent documents section of PTO Form-1449 is proper.

Thus, the June 22 Information Disclosure Statement satisfies all formal requirements. Applicants respectfully request that the Examiner initial and return to the undersigned a copy of the Form PTO-1449.

II. The Title Satisfies All Formal Requirements

The Office Action objects to the Title based on informalities. The Title is amended to obviate this objection. Withdrawal of the objection to the Title is respectfully requested.

III. The Claims Satisfy the Requirements of 35 U.S.C. § 112, Second Paragraph

The Office Action rejects claims 1 and 19 under 35 U.S.C. §112, second paragraph as failing to set forth the subject matter which Applicants' regard as their invention. Specifically, the Office Action asserts that the invention is different from what is defined in the claims because it appears that the Applicants' invention is drawn to solving the problem

of "compatibility of terminals between the product and evaluation chips" and reduction of the number of terminals to achieve compatibility, while the claims are drawn merely to a microcomputer. This rejection is respectfully traversed.

A rejection based on failure to set forth subject matter which Applicants regard as their invention is appropriate only where Applicants' have stated, somewhere other than in the application as filed, that the invention is something different from what is defined by the claims. The content of Applicants' specification can not be used as evidence that the scope of the claims is inconsistent with the subject matter which Applicants regard as their invention. See MPEP §2172. Agreement, or lack thereof, between the claims and the specification is properly considered only with respect to 35 U.S.C. §112, first paragraph, and is irrelevant to compliance with the second paragraph of that section.

In this case, the Office Action appears to be asserting that there is lack of agreement between the claims and the specification. However, as discussed above, even if this assertion is correct, it can not be used as a proper basis for a rejection under 35 U.S.C. §112, second paragraph.

Applicants respectfully request that the rejection under 35 U.S.C. §112, second paragraph be withdrawn.

IV. The Claims Define Patentable Subject Matter

The Office Action rejects claims 1 and 19 under 35 U.S.C. §103(a) over Pawlowski (U.S. Patent No. 5,313,618) in view of Gephardt et al. (U.S. Patent No. 5,623,673); and claims 2-18 under 35 U.S.C. §103(a) over Pawlowski (U.S. Patent No. 4,939,637) in view of Gephardt. These rejections are respectfully traversed.

According to the microcomputer of the claimed invention, the external bus is shared between the external memory and emulation memory. Thus, address and data buses

dedicated to the emulation memory as shown in Fig. 1B of the present application can be omitted.

In contrast, Pawlowski discloses an emulator having a shared bus architecture wherein both a control microprocessor and an emulation microprocessor are directly coupled to an emulation memory via a data bus. Further, both the control microprocessor and the emulation microprocessor are directly coupled to an address latch via the same data bus. As explained at col. 8, lines 30-35, the emulation processor is never halted so as to provide a smooth transition from emulation mode to brake mode. The emulation processor is synchronized with the target system when in emulation mode, and synchronized with control processor during a portion of the break mode. Thus, Pawlowski does not disclose any type of microcomputer that is capable of switching to and from an emulation mode, as in the claimed invention.

Gephardt does not provide the deficiencies of Pawlowski. Thus, even combining Gephardt with Pawlowski would not result in the claimed invention.

Further, none of the applied references disclose or suggest memory control means for outputting a first control signal for controlling an external memory connected to the external bus and a second control signal for controlling an emulation memory connected to the external bus, the second control signal being different from the first control signal, as recited in claim 5. The references are simply devoid of this feature, and this feature is not addressed in the Office Action.

Further, none of the applied references disclose or suggest the second control signal including a second memory read signal which becomes active at a timing earlier than that of a first memory read signal included in the first control signal, as recited in claim 6.

Further, none of the applied references disclose or suggest a mode selection terminal which is capable of selecting a fourth mode in which information is transmitted from the

external memory to the emulation memory after reset and thereafter the emulation memory is first accessed by the processor, as recited in claim 9. Pawlowski and the other applied references are simply devoid of this feature.

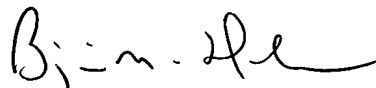
For at least these reasons, it is respectfully submitted that claims 1 and 19 are patentable over the applied references. The dependent claims are likewise patentable over the applied references for at least the reasons discussed as well as for the additional features they recite. Applicants respectfully request that the rejection under 35 U.S.C. 103 be withdrawn.

V. Conclusion

In view of the foregoing, Applicants respectfully submit that this application is in condition for allowance. Favorable consideration and prompt allowance are earnestly solicited.

Should the Examiner believe anything further is desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned representative at the telephone number listed below.

Respectfully submitted,



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